UNITED STATES PATENT AND TRADEMARK OFFICE

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The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

DETAILED ACTION

1.   Claims 1,3-12,14-23 and 25-35 are pending in this application.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly
claiming the subject matter which the applicant regards as his invention.

Claims 1,3-12,14-23 and 25-35 are rejected under 35 U.S.C. 112, second

paragraph, as being indefinite for failing to particularly point out and distinctly claim the

subject matter which applicant regards as the invention.

The following terms lack antecedent basis:

      i.   "said list" on lines 2,4 and 3 of claims 1,12 and 23 respectively.

For the purpose of this office action the Examiner would change "said list" to "said list of

valid exception handlers".

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed
or described as set forth in section 102 of this title, if the differences between the
subject matter sought to be patented and the prior art are such that the subject
matter as a whole would have been obvious at the time the invention was made
to a person having ordinary skill in the art to which said subject matter pertains.
Patentability shall not be negatived by the manner in which the invention was
made.

3.   **Claims 1,3,4,7-15,18-23,25,29-31,34 and 35 are rejected under 35 U.S.C.**

103(a) as being unpatentable over U.S. Pub. No. 2004/0064712 A1 to Arthur et al.

in view of U.S. Pat. No. 7,243,340 B2 to Tobin.

4.   As to claim 1, Arthur teaches a method of validating and dispatching an event

(figures 3A/3B/4), comprising: generating a list of valid exception handlers, said list of

valid exception handlers protected from alteration during program execution

("...substitute and non-substitute exception handlers..." page 3 paragraph 0047, Step

105 page 4 paragraph 0053); receiving an event (Step 111 page 4 paragraph 0055,

Step 151 page 4 paragraph 0069); determining if the exception handler is valid by

comparing the exception handler to said list of valid exception handlers (Step 113 page

4 paragraph 0056, Step 153 page 4 paragraphs 0067/0070) and determining if the

exception handler is unaltered ("...check whether any component or instructions have

been tampered with..." page 3 paragraph 0047, page 4 paragraph 0056, page 4

paragraph 0070); otherwise determining that the exception handler is invalid ("...if so..."

page 4 paragraph 0067, Step 155 "...not OK..." page 4 paragraphs 0070/0071); and

executing the exception handler if the exception handler is valid (Step 115 page 4

paragraph 0057, "...sent to 151..." page 4 paragraph 0070).

       Arthur is silent with reference to determining an exception handler for the event.

       Tobin teaches determining an exception handler for the event (Step 713 Col. 9

Ln. 42 – 45, Step 813 Col. 10 Ln. 8 – 10).

It would have obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Arthur with teaching of Tobin because the combination would achieve a predictable result of selecting appropriate exception handler for a particular exception.

5.   As to claim 3, Tobin teaches to the method of claim 1, further comprising one of receiving the list of valid exception handlers (Col. 9 Ln. 25 – 35).

6.   As to claim 4, Arthur teaches the method of claim 1, further comprising retrieving a list of valid exception handlers from a storage device and comparing the exception handler to the list of valid exception handlers in determining if the exception handler is valid (Step 113 page 4 paragraph 0056, Step 153 page 4 paragraphs 0067/0070).

7.   As to claim 7, Tobin teaches the method of claim 1, further comprising, if the exception handler is valid, determining whether the exception handler handles the event (Step 713 Col. 9 Ln. 43 – 48, Step 813 Col. 10 Ln. 8 – 10), and if so, executing the exception handler, and otherwise, retrieving a second exception handler from information on a stack and continuing processing with determining if the second exception handler is valid (Step 717 Col. 9 Ln. 45 – 48, Step 817 Col. 10 Ln. 10 – 12).

8.   As to claim 8, Arthur teaches the method of claim 1, further comprising

terminating the method if the handler is invalid ("...terminated..." page 3 paragraph

0047, Steps 119/155 page 4 paragraphs 0059/0071).

9.   As to claim 9, Arthur teaches the method of claim 1, further comprising

generating an error message if the handler is invalid (Steps 119/153 page 4 paragraphs

0059/0071).

10.   As to claim 10, Tobin teaches the method of claim 1, further comprising, if the

exception handler is valid, verifying other data for the event ("...pointer..." Col. 9 Ln. 49

– 59).

11.   As to claim 11, Tobin teaches the method of claim 10, wherein the other data

comprises pointer data ("...pointer..." Col. 9 Ln. 49 – 59).

12.   As to claims 12,15,18-22, see the rejection of claims 1,4 and 7-11 respectively.

13.   As to claim 14, see the rejection of claim 3 above.

14.   As to claims 23 and 25, see the rejection of claims 1 and 4 respectively.

15.   As to claims 29-31, see the rejection of claims 7-9 respectively.

16.   As to claims 34 and 35, see the rejection of claims 10 and 11 respectively.

17.   **Claims 5,16,26,27 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pub. No. 2004/0064712 A1 to Arthur et al. in view of U.S. Pat. No. 7,243,340 B2 to Tobin as applied to claims 1,23 or 26 above, and further in view of U.S. Pat. No. 5,628,016 to Kukol.**

18.   As to claim 5, Tobin and Arthur are silent with reference to teaches the method of claim 1, further comprising generating a list of valid exception handlers by compiling code into at least one of an object file and an image.

Kukol teaches the method of claim 1, further comprising generating a list of valid exception handlers by compiling code into at least one of an object file and an image (figure 1C Col. 8 Ln. 62 – 67, Col. 9 Ln. 1 – 16).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system Tobin and Arthur with the teaching of Kukol because the teaching of Kukol would improve the system of Tobin and Arthur by providing a uniquely efficient, portable and flexible implementation of exception handling (Kukol Col. 16 Ln. 15 –23).

19.   As to claims 16 and 26, see the rejection of claim 5 above.

20.   As to claim 27, Arthur teaches the system of claim 26, further comprising a

storage device that store the list of valid exception handlers ("...storage medium..."

page 5 claim 1).

21.   As to claim 32, Kukol teaches the system of claim 23, further comprising a linker

that creates an image based on at least one object file received from at least one of a

compiler and an assembler, and provides the image to the exception dispatcher system

(figure 1C Col. 8 Ln. 62 – 67, Col. 9 Ln. 1 – 16).

22.   Claims 6,17 and 28 are rejected under 35 U.S.C. 103(a) as being

unpatentable over U.S. Pub. No. 2004/0064712 A1 to Arthur et al. in view of U.S.

Pat. No. 7,243,340 B2 to Tobin as applied to claims 1,12 and 23 above, and further

in view of U.S. Pub. No. 20020169999 A1 to Bhansali et al.

23.   As to claim 6, Tobin and Arthur are silent with reference to the method of claim 1,

further comprising compiling code to produce an executable that is marked with an

identifier indicating that the executable is safe with respect to a list of valid exception

handlers.

        Bhansali teaches the method of claim 1, further comprising compiling code to

produce an executable that is marked with an identifier indicating that the executable is

safe with respect to a list of valid exception handlers (figure 14 Handler Designation

1408 page 12 paragraphs 0163/0164).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Tobin and Arthur with the teaching of Bhansali because the teaching of Bhansali would improve the system of Tobin and Arthur by providing a process for identifying an appropriate exception handler for handling an exception (Bhansali page 12 paragraph 0163).

24.   As to claims 17 and 28, see the rejection of claim 6 above.

25.   Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over 3,5,14,16,26,27 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pub. No. 2004/0064712 A1 to Arthur et al. in view of U.S. Pat. No. 7,243,340 B2 to Tobin and further in view of U.S. Pat. No. 5,628,016 to Kukol as applied to claim 32 above, and further in view of U.S. Pub. No. 20020169999 A1 to Bhansali et al.

26.   As to claim 33, Kukol, Tobin and Arthur are silent with reference to the system of claim 32, wherein the linker produces an executable that is marked with an identifier indicating that the executable is safe with respect to a list of valid exception handlers.

Bhansali teaches the system of claim 32, wherein the linker produces an executable that is marked with an identifier indicating that the executable is safe with respect to a list of valid exception handlers (figure 14 Handler Designation 1408 page 12 paragraphs 0163/0164).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Kukol, Tobin and Arthur with the teaching of Bhansali because the teaching of Bhansali would improve the system of Kukol, Tobin and Arthur by providing a process for identifying an appropriate exception handler for handling an exception (Bhansali page 12 paragraph 0163).

Response to Arguments

Applicant's arguments with respect to claims 1,3-12,14-23 and 25-35 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles E. Anya whose telephone number is (571) 272-3757. The examiner can normally be reached on M-F (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Thomson can be reached on (571) 272-3718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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cea.

WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER